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(54) Abstract Title

Inflatable toy building blocks.

(57) An inflatable toy building block 2, 4 is provided with engagement means 10, 14, 22, 24, 26, 28, 30 to enable it to engage with a complementary engagement means provided either on a similar block 2, 4 or on a rigid block 32. The engagement means may be adapted to be engaged when one or both inflatable blocks are semi-inflated, with subsequent further inflation increasing the engagement force. The engagement means 10, 14 of the inflatable block may be formed as a separate inflatable cell to allow inflation of the engagement means independently of the remainder of the block. The engagement means preferably comprises complementary male and female members 10, 14, 22, 24, 26, 28, 30.

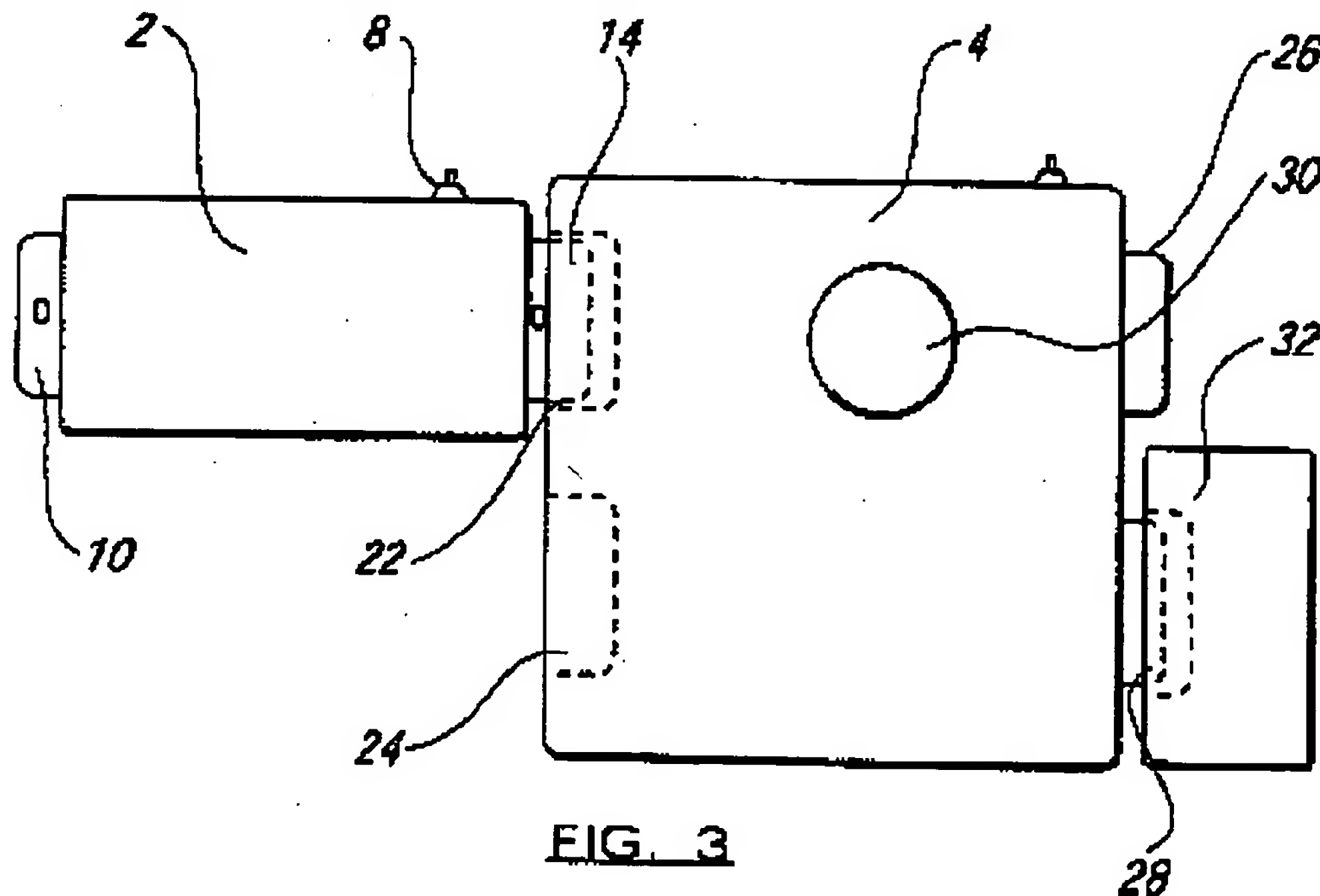


FIG. 3

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements 5/13/05, EAST Version: 2.0.1.4

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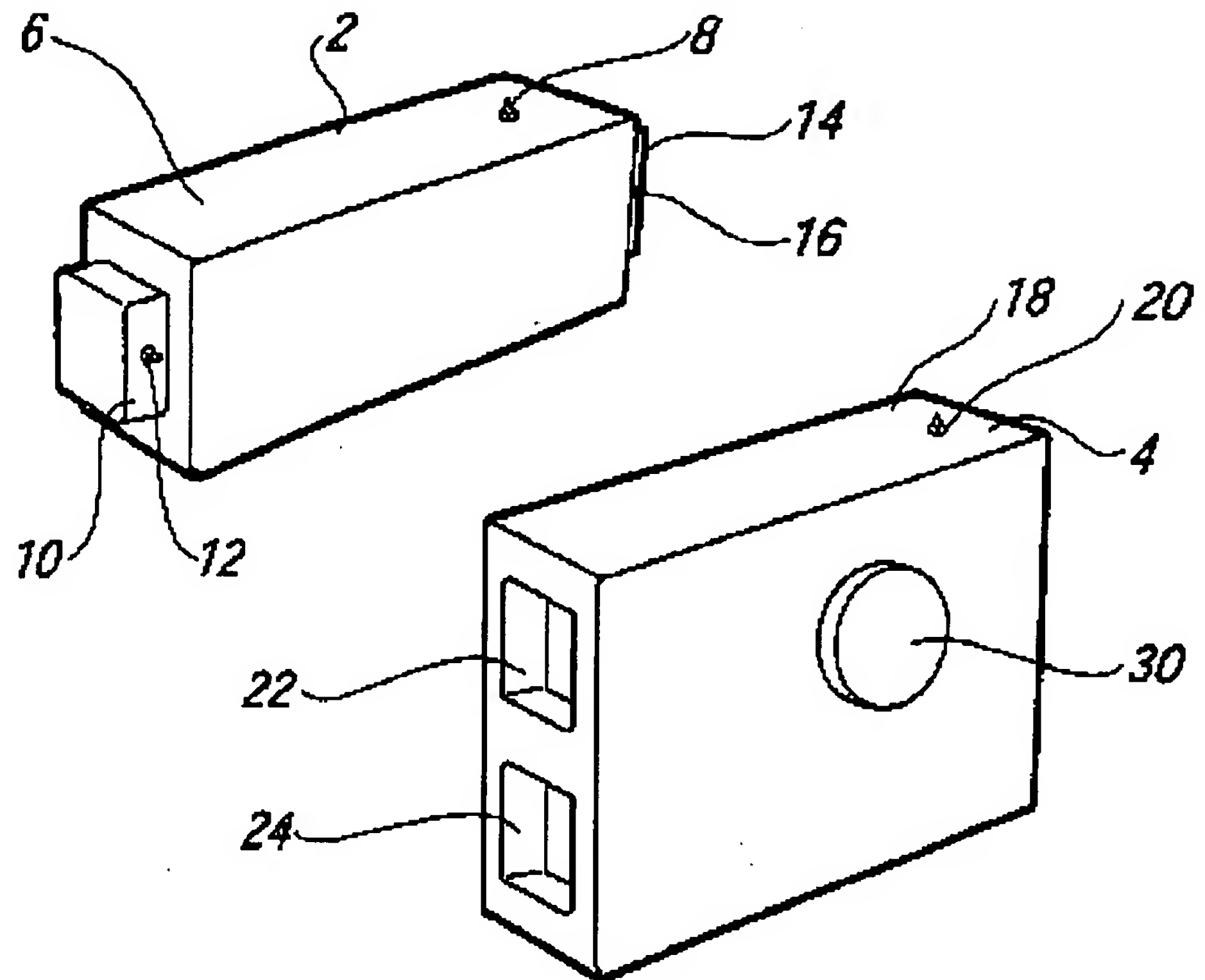


FIG. 1

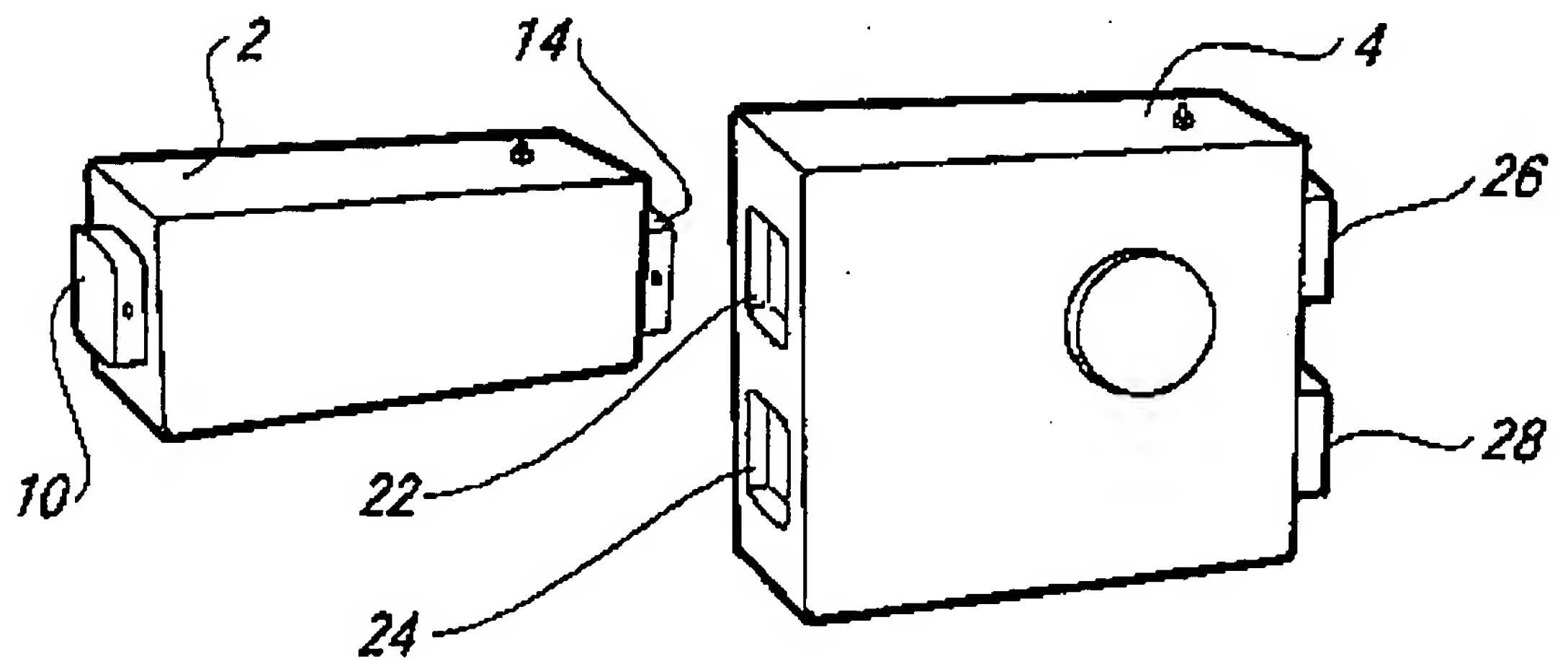
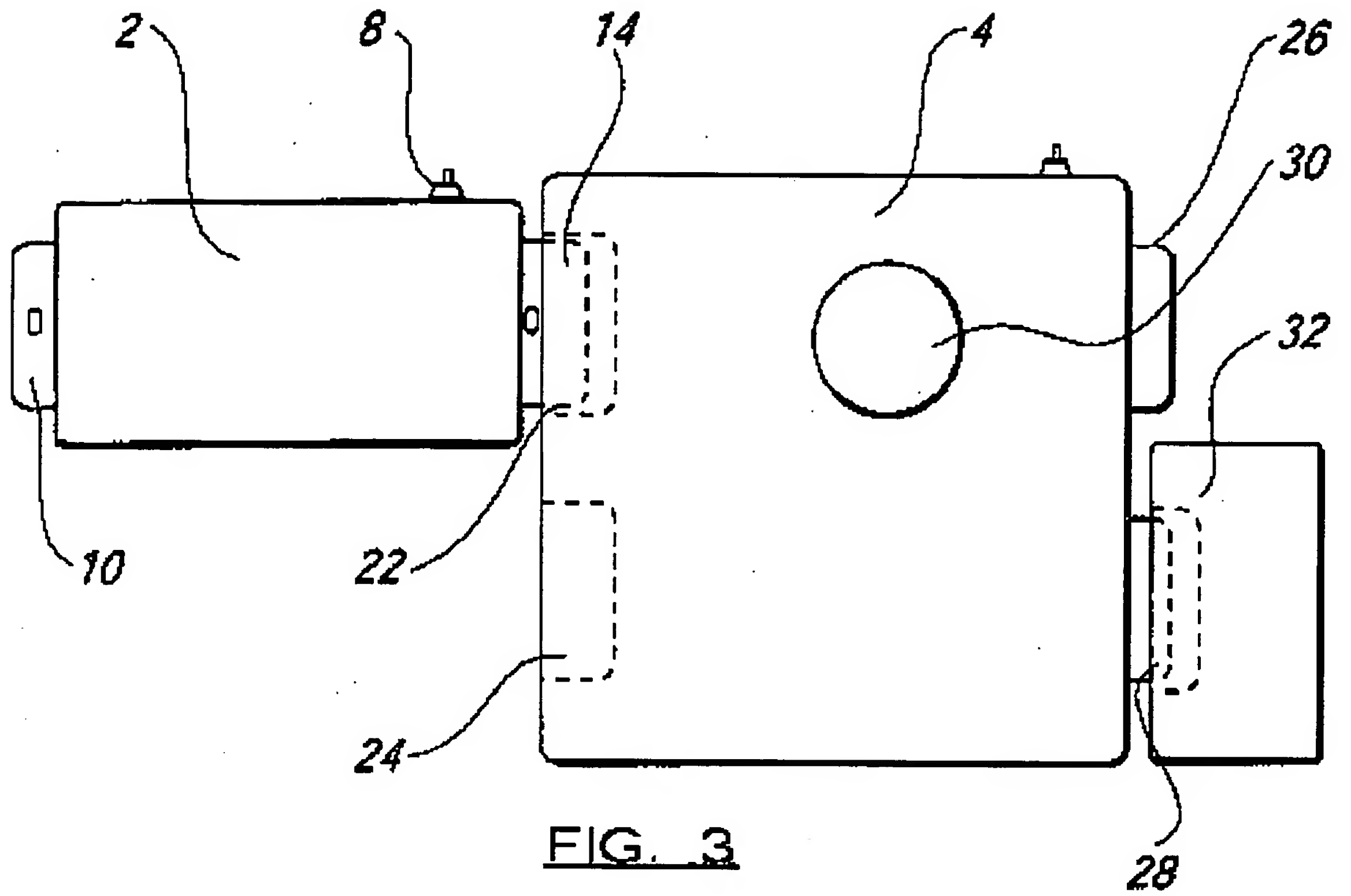


FIG. 2



Inflatable Articles

The invention to which this application relates is the provision of games and playthings which incorporate inflatable articles and particularly, to the provision of articles which can be inflated and which can be engaged and interlinked to other articles to form articles of a greater size in combination.

The provision of inflatable articles in different sizes and shapes is well known and some well known articles which can be provided to be inflatable are paddling pools for use by children in the garden. These comprise an inflatable ring connected to a sheet material base with the inflatable ring forming the walls of the paddling pool. The provision of inflatable articles of particular shapes is also well known as is the provision of inflatable boats, lilo's, balls and other similar products so that the general public, and children in particular, are well used to inflatable articles.

However, it is normally the case that said inflatable articles are used independently of other articles. On the occasion when an inflatable article is required to be joined to another article, it is conventionally the case that rope or other flexible attachment means are provided which engage with hooks and hence join the two articles together. This is however cumbersome in that the person using the article is required to firstly have the joining members to hand, and then make sure that the joining members are engaged. It is also found that in use, the joining members can break or become disconnected and this is inconvenient.

The aim of the present invention is to provide a series of inflatable articles of a form which allows a combination of the articles and multiple combinations of articles to be selectively formed and to allow the series of articles to be engaged together

to form a larger article and/or a number of different articles of different shape.

In a first aspect of the invention, there is provided at least two articles, at least one of which is inflatable, said articles provided with matching engagement means to allow the said articles to be engaged together so that inflation of the at least one inflatable article brings the engagement means and article into full form contact and hence holds the at least two articles in engagement with one another to form an enlarged article.

In one embodiment, one of the articles has a male engagement member, and the other has a female engagement member so that the bringing together of the male and female engagement members causes engagement of the two articles.

In one embodiment the respective engagement means are brought together while an inflatable article is partially inflated, and upon further inflation, the engagement between the engagement members is achieved and/or increases to form an increased engagement force between the articles.

In one embodiment, at least one of the articles includes a plurality of engagement members formed thereon at spaced locations so as to allow the selective engagement of another article or articles with the first article at a series of different locations on said first article as desired.

In one embodiment the articles are provided in the form of rectangular blocks, circular blocks or any other geometrical shape and a number of said articles can be provided as a set. In one preferred embodiment, each of the articles includes at least one female engagement means and one male engagement means and/or engagement means of differing size or shape, so as to

allow the interchanging of the articles in the set to form structures and articles of greater size.

It is envisaged that the invention is of particular attraction to children and the set of articles can be provided for children so that they can form a plaything which involves both the inflation and deflation of the articles and also the joining together of the articles as required.

In one alternative embodiment the engagement means are provided on respective surfaces of the articles and are formed such that when the same come into contact engagement is achieved. In one form the engagement means can be hook and loop fastener material.

In a further aspect of the invention there is provided an inflatable article, said inflatable article including at least one engagement means in the form of at least one male or female engagement member, said male or female engagement member formed to allow the reception of the other of the female or male engagement members from another article to allow the engagement of the articles.

The inflatable article or articles is provided with at least one valve to allow the inflation of the same but may also be provided with further valves depending on the size of the article. Yet further, in one embodiment, the portion of the article which defines the female or male engagement member can be a separate cell of the inflatable article so as to allow the separate inflation of that cell independently of the remainder of the inflatable article.

In a further aspect of the invention there is provided a set of articles, each article including engagement means to allow

engagement with respective engagement means in other articles in the set and wherein at least one of the articles in the set is inflatable.

It is envisaged that the articles may be used in conjunction with solid or rigid articles which are not inflatable and said solid or rigid articles can be provided with engagement formations of a shape to allow engagement with the engagement members provided in the inflatable articles so that in use, a structure can be formed by a combination of rigid and inflatable articles.

In a yet further aspect of the invention, there is provided a method for forming a plaything from a combination of articles, at least one of which is inflatable said articles joined together to form the plaything and wherein the method comprises the steps of inflating to at least a partially inflated state a first article, bringing into engagement, engagement members provided on respective first and second articles, maintaining the engagement members in position and continuing to inflate said first articles to a fully inflated condition which serves to lock the engagement means together and hence join the said first and second articles together.

Specific embodiments of the invention will now be described with reference to the accompanying drawings, wherein:-

Figure 1 illustrates two forms of articles in accordance with one embodiment of the said invention;

Figure 2 illustrates the two articles of Figure 1 being brought together for engagement; and

Figure 3 illustrates the two articles of Figure 1 in engagement plus another article in engagement.



Referring firstly to Figure 1 there are illustrated two articles 2, 4 in accordance with the invention. The first article 2, comprises a cube 6 which can be inflated and deflated via valve outlet 8. At a first end of the body there is provided a male engagement member 10 which can be inflated and deflated via valve 12 and at the opposing end there is a further male engagement member 14 which can be inflated and deflated via valve 16. The second article 4 comprises a body 18 and in this case the body and the engagement members are inflated via valve 20. In this case, the article 4 comprises a number of different engagement members comprising first and second female engagement members 22, 24 which are square in shape as are the male engagement formations 26, 28 which can be seen in Figure 2. Also provided on a side wall of the body is a male engagement member 30 which is circular in shape. It is envisaged that a number of the articles will be provided as a plaything set and may also be provided with a pump for inflation of the articles.

As it will be appreciated from the fact that the article 4 has more than one engagement member and has engagement members of different shapes, there can be provided a range of engagement members forms and shapes in the set of articles to allow the selective engagement of the articles together to form different shapes and thereby allow the re-use of the plaything in different formats on a number of occasions. It is also envisaged that the set of articles can be provided with an instruction booklet which illustrates various shapes and configurations which can be achieved from joining together the inflated articles in the set. It should also be appreciated that the set of articles can comprise solid or rigid articles and/or deformable articles in addition to the inflatable articles.



The process for the formation of a combined article using the inflatable articles 2 and 4 of the invention, as shown in Figure 1 and a further article 32, is illustrated in Figures 2 and 3. In figure 2, the article 4 is inflated and the article 2 is in a semi-inflated condition. To engage the articles 2 and 4 together, the male engagement member 14 which is in a semi-inflated condition also, is brought into engagement with the female location member 22 of the article 4. As the male engagement member 14 is not fully inflated, it can be fitted easily into the female engagement member 22. When in position, all parts of the article 2 are fully inflated so as to bring the male engagement member 14 into full contact with the female engagement member 22 and provide a friction fit between the two, hence engaging the article 2 with the article 4 as shown in Figure 3. The article 36 is also attached to the article 4 in a similar manner as is shown in Figure 3 but in this case the article 36 is a rigid article.

In some instances, it may not be possible to obtain a sufficiently secure engagement between the male and female engagement members in the shapes shown and one of several alternatives for the formation of the engagement members is to provide a lip portion on the male engagement member which is provided for location in a matching groove in the female engagement member. In this format the semi-inflated male member is moved into position in the female engagement member and further inflation causes expansion of the lip portion into the groove in the female engagement member so that the male engagement member can no longer be pulled out of the female engagement member due to the locking action between the lip and the groove. Thus, it will only be possible to disengage the two articles when one of the articles is partially deflated.

It will be appreciated that there are a number of different engagement means such as hook and loop fastener material provided on surfaces to be engaged together and other engagement formations which can be used with equal effect to suit particular requirements and for different uses of the articles. Each of these engagement formations fall within the scope of the current application.

## Claims

1. A plaything comprising at least two articles, at least one of which is inflatable, said articles provided with matching engagement means to allow the said articles to be engaged together so that inflation of the at least one inflatable article brings the engagement means into full form contact and hence holds the at least two articles in engagement with one another to form an enlarged article.
2. Articles according to claim 1 characterised in that one of the articles has a male engagement member, and the other has a female engagement member so that the bringing together of the male and female engagement members causes engagement of the two articles.
3. Articles according to claim 1 characterised in that all of the articles are inflatable articles and the respective engagement means are brought together while one or both of the inflatable articles is semi-inflated, and upon further inflation, the engagement between the engagement members is achieved and/or increases to form an increased engagement force between the articles.
4. Articles according to claim 1 characterised in that at least one of the articles includes a plurality of engagement members formed thereon so as to allow the selective engagement of another article or articles with the said first article at a series of different locations on said first article as desired.
5. Articles according to claim 1 characterised in that the articles are provided in the form of rectangular blocks, circular blocks or any other geometrical shape and a series of said articles can be provided as a set.

6. Articles according to claim 5 characterised in that each of the articles includes at least one female engagement member and one male engagement means and/or engagement means of differing size or shape, so as to allow the interchanging of the articles in the set to form structures and articles of greater size.

7. An inflatable article, said inflatable article including at least one engagement means in the form of at least one male or female engagement member, said male or female engagement member formed to allow the reception of the other of the female or male engagement members from another article to allow the engagement of the articles.

8. An article according to claim 7 characterised in that the article is provided with at least one valve to allow the inflation of the same.

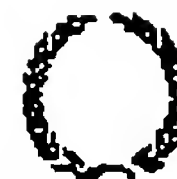
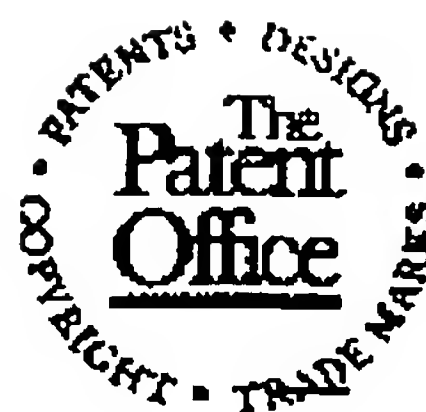
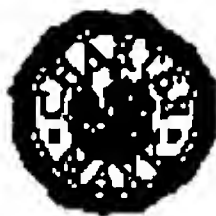
9. An article according to claim 8 characterised in that the portion of the article which defines the female or male engagement member can be a separate cell of the inflatable article so as to allow the separate inflation of that cell independently of the remainder of the inflatable article.

10. A set of articles, each article including engagement means to allow engagement with respective engagement means in other articles in the set and wherein at least one of the articles in the set is inflatable.

11. Articles according to claim 10 characterised in that the articles may be used in conjunction with solid or rigid articles provided with engagement formations of a shape to allow engagement with the engagement members provided in the

inflatable articles so that in use, a combined rigid and inflatable structure can be formed.

12. A method for forming a plaything from a combination of articles, at least one of which is inflatable said articles joined together to form the plaything and wherein the method comprises the steps of inflating to at least a partially inflated state a first article, bringing into engagement, engagement members provided on respective first and second articles, maintaining the engagement members in position and continuing to inflate said first articles to a fully inflated condition which serves to lock the engagement means together and hence join the said first and second articles together.



INVESTOR IN PEOPLE

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Claims searched: 1 to 12

Examiner: Matthew Jefferson  
Date of search: 14 June 2001

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): A6S

Int Cl (Ed.7): A63H 33/08.

Other: Online: EPODOC, PAJ, WPI.

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	WO 87/01604 A1 (LAUREYSSSENS) See abstract and figures.	1 to 4, 7, 8 & 10 to 12.
X	US 5493816 A (WILLEMSSEN) See abstract and figures.	1 to 8, 10 & 12.
X	US 5273477 A (LEWIS) See abstract and figures.	1 to 8, 10 & 12.
X	US 5145440 A (BORIS ET AL.) See abstract and figures.	1, 4, 5 & 10.
X	US 4267662 A (GORDY INT. INC.) See abstract and figures.	1 to 8, 10 & 12.

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